

C L A I M S

1. Side-flexing conveyor belt built up of a number of chain links which are joined together in a hinge-like manner by means of transverse rods (5, 6) through openings in the individual chain links, and where at least two types of chain links are used, i.e.

a) edge chain links (1, 2) with one-sided reinforcement (18) and arranged for positioning in the outer parts of the belt, and

b) module chain links (3, 4) arranged for positioning between the edge chain links,

and where the chain links of both types can be configured in various module breadths, so that the conveyor belt can be built up in the desired breadth, and so that the individual links are staggered in relation to one another in a commonly-known manner (brick-laid), and where each link comprises

c) a first row of eye parts (12), preferably with equally large mutual intervals between them in the transverse direction, and with elongated holes (15) which are in line with one another for insertion of a transverse rod, and

d) a second row of eye parts (11) positioned preferably midway between the eye parts of the first-mentioned row, and with openings (13) in line with one another for insertion of a second transverse rod,

in that the two sets of eye parts are held together by a transversely-extending bridge part (22), characterized in that the one-sided reinforcement (18) of

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the edge links extends over at least one eye part (11, 12) for each row, so that at least one eye part is replaced by at least one traction side plate (7) in each link, in that said side plates have transverse openings (55, 56; 60, 62) corresponding to the openings (13) and elongated holes (15) in the eye parts and are in engagement with adjacent rods (5, 6).

2. Conveyor belt according to claim 1, characterized in that the side plates (7) are positioned at a distance from the outer edge (10) of the belt.

3. Conveyor belt according to claim 1, characterized in that the side plates (7) have a height (x) which is less than the height (h) of the chain link.

4. Conveyor belt according to claim 1, characterized in that each edge link comprises internal holding means or tracks (19) configured in the running direction of the belt and configured for securing of the side plates (7) so that these become integrated in the link.

5. Conveyor belt according to claim 4, characterized in that each edge link has two parallel holding means or tracks for side plates.

6. Conveyor belt according to claim 5, characterized in that the holding means or the tracks are configured in such a manner that the side plates in adjacent links are positionally held at a distance from each other.

7. Conveyor belt according to claim 1, characterized in that the side plates are of steel (54), for example special steel with high tensile strength.

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8. Conveyor belt according to claim 1, characterized in that the side plates are made of plastic (59), preferably reinforced or fibre-strengthened plastic.

5 9. Conveyor belt according to claim 1, characterized in that all eye parts (11, 12) have a through-going opening (16, 17) from the link's upperside to the link's underside, and in that the edge links at the reinforced outer edges similarly comprise such an opening
10 (16) positioned substantially outermost in the link, in that each opening is arranged for the insertion of a blocking element (8, 9) for the transverse rod (5, 6).

15 10. Conveyor belt according to claim 1 or 9, characterized in that use is made of steel rod parts in the chain links at any point along the breadth of the belt where steel rods are desired, and that the intermediate rod part is configured in another material, e.g. as a plastic rod, a plastic tube or metal tube.

20 11. Conveyor belt according to claim 1 or 9, characterized in that use is made of a through-going rod across the whole breadth of the belt.

25 12. Conveyor belt according to claim 1 or 9, characterized in that the edge chain links can further comprise holding elements (44) facing downwards from the underside and with a surface (45) arranged for contact with a rail (42, 43) arranged to prevent the lifting of the
30 underside of the belt when running in curves.

35 13. Conveyor belt according to claim 12, characterized in that the downwardly-facing holding element (44) is configured as one piece integral with the edge chain link.

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14. Conveyor belt according to claim 12, characterized in that the downwardly-facing holding element (44) is an independent part arranged (48) to be secured to a chain link by insertion in the through-going openings (16, 17) in the eye parts.

15. Conveyor belt according to claim 14, characterized in that the downwardly-facing holding element (44) is in engagement (49, 50) with at least one transverse rod (5, 6).

16. Conveyor belt according to claim 1 or 9, characterized in that it can further comprise a number of friction catch-plates (89) of a material with relatively high friction, e.g. rubber or plastic, and arranged to be secured on the upperside of the belt, and where each catch-plate comprises a number of securing parts (91) integral with the catch-plate and arranged for insertion in the through-going openings in the chain links.

17. Conveyor belt according to claim 1, characterized in that all module chain links, and those of the edge chain links which do not lie in the reinforcement area, are configured with a symmetrical, transverse bridge part (22), and in that the leading edges (26) of the eye parts are rounded off and symmetrical, so that driving wheels (99) can freely engage with the upperside or the underside of the belt.

18. Conveyor belt according to claim 1 or 9, characterized in that it can further comprise a number of catch-plate elements (75) or a number of side-guard elements (82), said elements along an edge or side each comprising at least one securing part (78; 83) arranged for insertion in the through-going openings in the chain links.

19. Conveyor belt according to claim 18, characterized in that the securing part or parts (78; 83) comprise at least one opening or at least one recess (79; 84) arranged for engagement with at least one rod or rod part.

20. Conveyor belt according to claim 1, characterized in that it can further comprise a number of retaining elements (94), each comprising a transverse bridge part (96) arranged to prevent the belt from being lifted up, and which opposite the bridge part comprises a number of securing parts (97) arranged for insertion in the through-going openings in the chain links.

21. Conveyor belt built up of a number of chain links which are joined together in a hinge-like manner by means of transverse rods (5, 6) through openings in the individual chain links, and where use is made of chain links of at least two types, i.e.

a) edge chain links (1, 2) with one-sided reinforcement (18) and arranged to be positioned in the outer parts of the belt, and

b) module chain links (3, 4) arranged to be positioned between the edge chain links,

and where the chain links of both types can be configured in various module breadths, so that the conveyor belt can be built up in the desired breadth, and so that the individual links are staggered in relation to one another in a commonly-known manner (brick-laid), and where each link comprises

c) a first row of eye parts (12), preferably with equally large mutual intervals between them in the transverse

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direction, and with elongated holes (15) which are in line with one another for insertion of a transverse rod, and

- 5 d) a second row of eye parts (11) positioned preferably midway between the eye parts of the first-mentioned row, and with openings (13) in line with one another for insertion of a second transverse rod,

10 in that the two sets of eye parts are held together by a transversely-extending bridge part (22), characterized in that the distance (a) between adjacent eye parts is at least equal to the thickness (b) of an eye part and at the most equal to 1.8 times the thickness of an eye part ($b \leq a \leq 1.8 \times b$), and that the depth (d) of the opening between two adjacent eye parts lies between two and three times the distance (a) between the adjacent eye parts ($2 \times a \leq d \leq 3 \times a$).

15 22. Conveyor belt according to claim 21, characterized in that the height (h) of the chain links is of the same order as the depth (d) of the openings between two eye parts, though such that the height is less than the depth ($h \leq d$).

25 23. Conveyor belt according to claim 1, characterized in that it further comprises a number of wear elements (100, 110) with means (102, 112) for securing in the edge of the belt while using the openings (13, 14, 15) in the eye parts.

30 24. Conveyor belt according to claim 23, characterized in that the wear elements are moulded as a one-piece unit in a heat-resistant material, preferably a material which is more heat-resistant than the chain links themselves, e.g. nylon.

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25. Conveyor belt according to claim 21, characterized in that it further comprises a number of wear elements (100, 110) with means (102, 112) for securing in the edge of the belt while using the openings (13, 14, 15) in the eye parts.

26. Conveyor belt according to claim 25, characterized in that the wear elements are moulded as a one-piece unit in a heat-resistant material, preferably a material which is more heat-resistant than the chain links themselves, e.g. nylon.

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